

DV1. Motor Vehicle Automated Driving System(s)

Definition “The hardware and software that are collectively capable of performing part or all of the dynamic driving task on a sustained basis; this term is used generically to describe any system capable of level 1-5 driving automation.” (SAE 2016)

*Refer to “Figure 21: SAE International’s Levels of Driving Automation; SAE International Standard J3016 (2014)” (p. 124) for automation level determination.

No Automation*: The full-time performance by the human driver of all aspects of the dynamic driving task, even when enhanced by warning or intervention systems.

Driver Assistance*: Driver assistance system of either steering or acceleration/ deceleration using information about the driving environment and with the expectation that the human driver perform all remaining aspects of the dynamic driving task.

Partial Automation*: The driving mode-specific execution by one or more driver assistance systems of both steering and acceleration/deceleration using information about the driving environment and with the expectation that the human driver perform all remaining aspects of the dynamic driving task.

Conditional Automation*: The driving mode-specific performance by an automated driving system of all aspects of the dynamic driving task with the expectation that the human driver will respond appropriately to a request to intervene.

High Automation*: The driving mode-specific performance by an automated driving system of all aspects of the dynamic driving task, even if a human driver does not respond appropriately to a request to intervene.

Full Automation*: The full-time performance by an automated driving system of all aspects of the dynamic driving task under all roadway and environmental conditions that can be managed by a human driver.

Dynamic driving task includes the operational (steering, braking, accelerating, monitoring the vehicle and roadway) and tactical (responding to events, determining when to change lanes, turn, use signals, etc.) aspects of the driving task, but not the strategic (determining destinations and waypoints) aspect of the driving task.

Driving mode is a type of driving scenario with characteristic dynamic driving task requirements (e.g., expressway merging, high-speed cruising, low speed traffic jam, closed-campus operations, etc.).

Request to intervene is notification by the automated driving system to a human driver that s/he should promptly begin or resume performance of the dynamic driving task.
